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=> file registry COST IN U.S. DOLLARS

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SINCE FILE ENTRY SESSION 0.21 0.21

TOTAL

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Uploading C:\Program Files\STNEXP\Queries\10590729.str

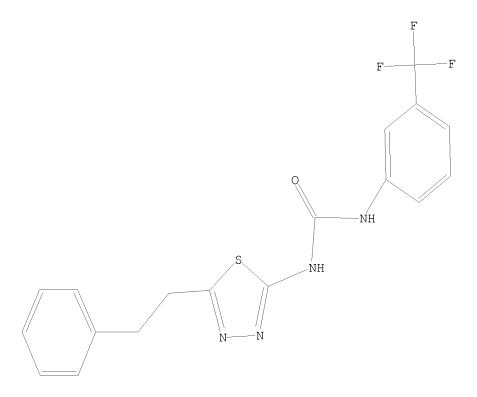
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ring nodes :
1  2  3  4  5  6  9  10  11  12  13  17  18  19  20  21  22
chain bonds :
6-7  7-8  8-13  10-14  14-15  15-16  15-23  16-19  21-24  25-26
ring bonds :
1-2  1-6  2-3  3-4  4-5  5-6  9-10  9-13  10-11  11-12  12-13  17-18  17-22  18-19
19-20  20-21  21-22
exact/norm bonds :
9-10  9-13  10-11  10-14  11-12  12-13  14-15  15-16  15-23  16-19
exact bonds :
6-7  7-8  8-13  21-24  25-26
normalized bonds :
1-2  1-6  2-3  3-4  4-5  5-6  17-18  17-22  18-19  19-20  20-21  21-22
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# Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:CLASS 15:CLASS 16:CLASS 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:CLASS 24:CLASS 25:CLASS 26:CLASS

## L1 STRUCTURE UPLOADED

=> d 11 L1 HAS NO ANSWERS L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1 sss ful

FULL SEARCH INITIATED 08:15:46 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 0 TO ITERATE

100.0% PROCESSED 0 ITERATIONS 0 ANSWERS

SEARCH TIME: 00.00.01

L2 0 SEA SSS FUL L1

=> end

ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF

LOGOFF? (Y)/N/HOLD:y

COST IN U.S. DOLLARS SINCE FILE TOTAL

FULL ESTIMATED COST ENTRY SESSION 181.12 181.33

STN INTERNATIONAL LOGOFF AT 08:18:43 ON 24 MAR 2008

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NEWS 4 NOV 15
                 Derwent Indian patent publication number format enhanced
NEWS 5 NOV 19
                 WPIX enhanced with XML display format
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NEWS 8 DEC 14 BEILSTEIN pricing structure to change
NEWS 9 DEC 17 USPATOLD added to additional database clusters
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NEWS 11 DEC 17 DGENE now includes more than 10 million sequences
NEWS 12 DEC 17
                 TOXCENTER enhanced with 2008 MeSH vocabulary in
                 MEDLINE segment
NEWS 13
         DEC 17 MEDLINE and LMEDLINE updated with 2008 MeSH vocabulary
NEWS 14
         DEC 17
                CA/CAplus enhanced with new custom IPC display formats
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         DEC 17
                 STN Viewer enhanced with full-text patent content
                 from USPATOLD
NEWS 16
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NEWS 17
         JAN 16
                 CAS patent coverage enhanced to include exemplified
                 prophetic substances
                 USPATFULL, USPAT2, and USPATOLD enhanced with new
NEWS 18 JAN 28
                 custom IPC display formats
NEWS 19 JAN 28 MARPAT searching enhanced
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                 of publication
NEWS 21 JAN 28 TOXCENTER enhanced with reloaded MEDLINE segment
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NEWS 25 FEB 25 IFIREF reloaded with enhancements
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                 U.S. National Patent Classification
NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3,
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SINCE FILE TOTAL ENTRY SESSION 0.21 0.21

### FULL ESTIMATED COST

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=>

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ring nodes :
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ring bonds :
1-2  1-6  2-3  3-4  4-5  5-6  7-8  7-11  8-9  9-10  10-11  15-16  15-20  16-17
17-18  18-19  19-20
exact/norm bonds :
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7-8 7-11 8-9 8-12 9-10 10-11 12-13 13-14 13-21 14-17

exact bonds :

5-25 11-25 19-22 23-24 25-26

normalized bonds :

 $1-2 \quad 1-6 \quad 2-3 \quad 3-4 \quad 4-5 \quad 5-6 \quad 15-16 \quad 15-20 \quad 16-17 \quad 17-18 \quad 18-19 \quad 19-20$ 

#### Match level:

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:CLASS 13:CLASS 14:CLASS 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:CLASS 26:CLASS

## L1 STRUCTURE UPLOADED

=> d 11

L1 HAS NO ANSWERS

L1 STR

Structure attributes must be viewed using STN Express query preparation.

0 ANSWERS

=> s l1 sss ful

FULL SEARCH INITIATED 08:21:46 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 0 TO ITERATE

100.0% PROCESSED 0 ITERATIONS

SEARCH TIME: 00.00.01

L2 0 SEA SSS FUL L1

=> end

ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF

LOGOFF? (Y)/N/HOLD:y

COST IN U.S. DOLLARS SINCE FILE TOTAL

FULL ESTIMATED COST ENTRY SESSION 178.82 179.03

STN INTERNATIONAL LOGOFF AT 08:22:21 ON 24 MAR 2008

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TERMINAL (ENTER 1, 2, 3, OR ?):2

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      2 OCT 02
                 CA/CAplus enhanced with pre-1907 records from Chemisches
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NEWS 12 DEC 17 TOXCENTER enhanced with 2008 MeSH vocabulary in
                 MEDLINE segment
NEWS 13 DEC 17 MEDLINE and LMEDLINE updated with 2008 MeSH vocabulary
NEWS 14 DEC 17 CA/CAplus enhanced with new custom IPC display formats
NEWS 15 DEC 17 STN Viewer enhanced with full-text patent content
                 from USPATOLD
NEWS 16
         JAN 02
                 STN pricing information for 2008 now available
NEWS 17 JAN 16 CAS patent coverage enhanced to include exemplified
                 prophetic substances
NEWS 18 JAN 28 USPATFULL, USPAT2, and USPATOLD enhanced with new
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NEWS 19
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NEWS 20 JAN 28 USGENE now provides USPTO sequence data within 3 days
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NEWS 23 FEB 08
                STN Express, Version 8.3, now available
NEWS 24 FEB 20
                 PCI now available as a replacement to DPCI
NEWS 25 FEB 25
                 IFIREF reloaded with enhancements
NEWS 26 FEB 25
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NEWS 27 FEB 29
                 WPINDEX/WPIDS/WPIX enhanced with ECLA and current
                 U.S. National Patent Classification
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=> file registry
COST IN U.S. DOLLARS

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FULL ESTIMATED COST

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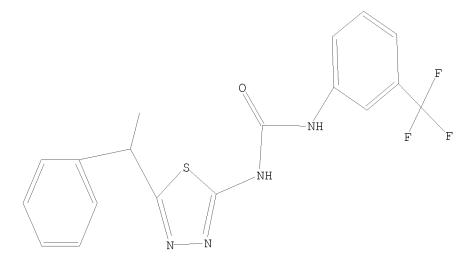
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ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-11 8-9 9-10 10-11 15-16 15-20 16-17
17-18 18-19 19-20
exact/norm bonds :
7-8 7-11 8-9 8-12 9-10 10-11 12-13 13-14 13-21 14-17
exact bonds :
5-22 11-22 15-24 22-23 25-26
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 15-16 15-20 16-17 17-18 18-19 19-20

## Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:CLASS 13:CLASS 14:CLASS 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:CLASS 26:CLASS

## L1 STRUCTURE UPLOADED

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FULL SCREEN SEARCH COMPLETED - 0 TO ITERATE

100.0% PROCESSED 0 ITERATIONS 0 ANSWERS

SEARCH TIME: 00.00.01

L2 0 SEA SSS FUL L1

=> file caplus

COST IN U.S. DOLLARS
SINCE FILE TOTAL
ENTRY SESSION
FULL ESTIMATED COST 178.36 178.57

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=> s burgdorf 1?/au

L3 21 BURGDORF L?/AU

=> d 13 ibib abs 1-21

L3 ANSWER 1 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:702680 CAPLUS

DOCUMENT NUMBER: 147:118272

TITLE: Preparation of diazepinones as PDK1 kinase inhibitors

INVENTOR(S): Schulz, Melanie; Burgdorf, Lars Thore;

Finsinger, Dirk; Blaukat, Andree; Greiner, Hartmut; Esdar, Christina; Kreysch, Hans-Georg; Henzler, Tanja

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: Ger. Offen., 35pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATE	ENT I	NO.			KIN	D	DATE			APPL	ICAT	ION :	NO.		D	ATE	
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WO 2	2007	0798	26		A1		2007	0719	,	WO 2	006-	EP11	411		2	0061	128
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		CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FΙ,	GB,	GD,
		GE,	GH,	GM,	GT,	HN,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KM,	KN,
		KP,	KR,	KΖ,	LA,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,
		MN,	MW,	MX,	MY,	MZ,	NA,	NG,	NI,	NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,
		RS,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SM,	SV,	SY,	ΤJ,	TM,	TN,	TR,	TT,
		TZ,	UA,	UG,	US,	UΖ,	VC,	VN,	ZA,	ZM,	ZW						
	RW:	ΑT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FΙ,	FR,	GB,	GR,	HU,	IE,
		IS,	ΙΤ,	LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR,	BF,	ВJ,
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		GM,	KΕ,	LS,	MW,	MZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,
		KG,	KΖ,	MD,	RU,	ΤJ,	TM										
DTTV	V DD	T NT	TNIEC							DE 3	005	1020	0506	1655	7 2	0051	222

Ι

ΙI

PRIORITY APPLN. INFO.:

DE 2005-102005061655A 20051222

OTHER SOURCE(S): MARPAT 147:118272

GΙ

AB Title compds. I [R1, R3, R4, R5 = H, halo, CN, etc.; R2 = R6; R6 = H, halo, OH, etc.; X = N, O, S, etc.; Y = NR4, O, S; Z = N, O, S, etc.] and their pharmaceutically acceptable salts and formulations were prepared For example, diazepinone II was prepared from 2-nitro-p-anisidine in 6-steps. In pdk1 kinase inhibition assays, 28-examples of compds. I exhibited IC50 values ranging from  $0.4-3.6~\mu M$ .

L3 ANSWER 2 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:1312199 CAPLUS

DOCUMENT NUMBER: 146:62590

TITLE: Oxindoles as protein kinase inhibitors and their

preparation, pharmaceutical compositions and use in

the treatment of diseases

INVENTOR(S): Burgdorf, Lars Thore; Bruge, David; Greiner,

Hartmut; Kordowicz, Maria; Sirrenberg, Christian;

Zenke, Frank

PATENT ASSIGNEE(S): Merck Patent GmbH, Germany

SOURCE: PCT Int. Appl., 89pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PA	TENT	NO.			KIN	D	DATE			APPL	ICAT	ION :	NO.		D.	ATE	
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		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KM,	KN,	KP,	KR,
		KΖ,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,	MW,	MX,
		MZ,	NA,	NG,	NI,	NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,
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		VN,	YU,	ZA,	ZM,	ZW											
	RW:	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FΙ,	FR,	GB,	GR,	HU,	ΙE,
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		CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	ΝE,	SN,	TD,	TG,	BW,	GH,
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AU	2006	2547	58	,	A1	·	2006	1214		AU 2	006-	2547	58		2	0060	511
CA	2611	401			A1		2006	1214	1	CA 2	006-	2611	401		2	0060	511
EP	1891	800			A1		2008	0227		EP 2	006-	7535	63		2	0060	511
	R:	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	IE,
							LV,										·
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														1		0060	
OTHER S	OURCE	(5) .			MAR	PAT	146.	62591									

OTHER SOURCE(S): MARPAT 146:62590

GΙ

$$R^{1-R^{7}}$$
 $X$ 
 $R^{6}$ 
 $N^{H_2}$ 
 $R^{5}$ 
 $R^{6}$ 
 $R^{7}$ 
 $N^{1}$ 
 $N^{1}$ 

AB The invention relates to oxindoles of the formula I, their use as protein kinase activators or inhibitors, a method for their manufacture, their use for the preparation of a medicament for the treatment of diseases and their use for the manufacture of a pharmaceutical composition Compds. of formula I wherein X is

(CH2)p; R1 is (hetero)aryl; R2 is H, (un)branched alkyl, (un)substituted cycloalkyl, aryl, OH and derivs., etc.; R3-R7 are independently H, (un)branched alkyl, (un)substituted cycloalkyl, OH and deriv.s, aryl, SH and derivs., etc.; and their physiol. acceptable salts, derivs., prodrugs, solvates and stereoisomers, including mixts. thereof, are claimed. Example compound II was prepared from the corresponding benzimidic acid Et ester and oxindole (general procedure given). All the invention compds. were evaluated for their protein kinase inhibitory activity (data given).

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:950636 CAPLUS

DOCUMENT NUMBER: 145:314834

TITLE: Preparation of pyrrolo[3,2,1-ij]quinolines as tyrosine

kinase and Raf kinase inhibitors

INVENTOR(S): Staehle, Wolfgang; Heinrich, Timo; Kordowicz, Maria;

Blaukat, Andree; Burgdorf, Lars, Thore

PATENT ASSIGNEE(S): Merck Patent GmbH, Germany

SOURCE: PCT Int. Appl., 103pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Facent German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PAT	TENT	NO.			KIN	D	DATE			APPL	ICAT	ION I	.OV.		D.	ATE	
WO	2006	0946	00		A1	_	 2006	0914		WO 2	 006-:	 EP12	 81		2	0060	213
	W:	ΑE,	AG,	AL,	AM,	ΑT,	ΑU,	AZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,
		CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KM,	KN,	KP,	KR,
	KZ, LC, L MZ, NA, N			LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,	MW,	MX,
	MZ, NA, N			NG,	NI,	NO,	NΖ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,
	MZ, NA, N SG, SK, S		SL,	SM,	SY,	ТJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UΖ,	VC,	
		VN,	YU,	ZA,	ZM,	ZW											
	RW:	ΑT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,
		IS,	IT,	LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR,	BF,	ВJ,
	IS, IT, L' CF, CG, C			CI,	CM,	GΑ,	GN,	GQ,	GW,	ML,	MR,	NE,	SN,	TD,	ΤG,	BW,	GH,
	GM, KE, L			LS,	MW,	MZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,
	KG, KZ, MI				RU,	ΤJ,	$_{ m TM}$										
DE	, ,				A1		2006	0914		DE 2	005-	1020	0501	1058	2	0050	310

AU 2006222339 20060914 AU 2006-222339 20060213 Α1 CA 2600630 Α1 20060914 CA 2006-2600630 20060213 Α1 EP 1856116 20071121 EP 2006-706893 20060213 R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR PRIORITY APPLN. INFO.: DE 2005-102005011058A 20050310 WO 2006-EP1281 W 20060213

CASREACT 145:314834; MARPAT 145:314834 OTHER SOURCE(S):

GΙ

Title compds. I [X = CH, N; R1 = halo, CN, NO2, etc.; R2 = Ar, OR, NHR, etc.; R3 = (CH2) nAr, (CH2) nHet; n = 0-4; R = H, A, Ar, etc.; A = AB (un)substituted alkyl with provisos] and their pharmaceutically acceptable salts and formulations were prepared For example, three-component coupling of 5-fluoroindoline, 1-viny1-2-pyrrolidone and 3-methoxybenzaldehyde afforded claimed pyrroloquinoline II. In insulin like growth factor I receptor kinase assays, 45-examples of compds. I exhibited IC50 values ranging from 0.0019-2.9x10-5 mol/L.

REFERENCE COUNT: THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS 1 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 4 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN T.3

ACCESSION NUMBER: 2006:364321 CAPLUS

DOCUMENT NUMBER: 144:412515

TITLE: Heterocyclic substituted bisarylurea derivatives as

kinase inhibitors and their preparation,

pharmaceutical compositions, and use for treatment of

diseases mediated or propagated by kinases

INVENTOR(S): Stieber, Frank; Jonczyk, Alfred; Hoelzemann, Guenter;

Buchstaller, Hans-Peter; Burgdorf, Lars Thore

; Rautenberg, Wilfried; Greiner, Hartmut

Merck Patent G.m.b.H., Germany PATENT ASSIGNEE(S):

SOURCE: PCT Int. Appl., 232 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PAT	TENT	NO.			KIN	D :	DATE			APPL	ICAT	ION I	. O <i>V</i>		D	ATE	
						_									_		
WO	2006	0400	56		A1		2006	0420	1	WO 2	005-	EP10	744		2	0051	006
	W:	ΑE,	AG,	AL,	AM,	ΑT,	ΑU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,
		CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KΕ,	KG,	KM,	KP,	KR,	KΖ,
		LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,
		NA,	NG,	NΙ,	NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,

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SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN,
             YU, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM
     AU 2005293839
                                20060420
                                            AU 2005-293839
                          Α1
                                                                    20051006
     CA 2584185
                                20060420
                                             CA 2005-2584185
                                                                    20051006
     EP 1799669
                                20070627
                                            EP 2005-789864
                                                                    20051006
                          Α1
             AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
     CN 101039932
                          Α
                                20070919
                                            CN 2005-80035117
                                                                    20051006
     MX 200704248
                          Α
                                20070612
                                            MX 2007-4248
                                                                    20070410
     KR 2007062998
                                20070618
                                            KR 2007-708364
                                                                    20070412
                          Α
                                20070727
                                             IN 2007-KN1680
     IN 2007KN01680
                          Α
                                                                    20070511
                                             EP 2004-24369
PRIORITY APPLN. INFO.:
                                                                 A 20041013
                                             EP 2005-16845
                                                                 Α
                                                                    20050803
                                             WO 2005-EP10744
                                                                 W
                                                                    20051006
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OTHER SOURCE(S): MARPAT 144:412515

$$(R^7)_{g}$$
  $Y$   $(R^4)_{z}$   $(R^8)_{p}$   $Ar^1$   $N$   $N$   $Ar^2$   $(R^9)_{q}$   $T$ 

AB The invention relates to heterocyclic substituted bisarylurea derivs. of formula I, the use of the compds. of formula I as inhibitors of one or more kinases, the use of the compds. of formula I for the manufacture of a pharmaceutical composition and a method of treatment, comprising administering said pharmaceutical composition to a patient. Compds. of formula I wherein R4 is  $(X-Ar3)\alpha-(R10)10$ ; Ar1, Ar2, and Ar3 are independently 5- to 14-membered unsatd. or aromatic cyclic hydrocarbon, or 2- to 10-membered unsatd. or aromatic heterocyclic residue, preferably 1 to 5 heteroatoms selected from N, O, and S;  $\alpha$  is 0, 1, or 2; r, z, and p are independently 0, 1, 2, 3, 4 or 5; R7 is nitrogen containing heterocyclic moiety bound directly to Arl via a nitrogen atom, etc.; R8, R9, and R10 are independently H, (alkoxy)alkyl, alkenyl, C3-7 cycloalkyl, alkenylcycloalkyl, halo, CH2halo, CH(halo)2, C(halo)3, NO2, etc.; Y is O, S, NH and derivs., (un)substituted CHNO2, (un)substituted CHCN, or C(CN)2; g is 1, 2, or 3; q is 0, 1, 2, 3 or 4; and their pharmaceutically acceptable derivs., salts and solvates thereof are claimed in this

ΙI

invention. Example compound II was prepared by chlorination and esterification of pyridine-2-carboxylic acid to give Me 4-chloropyridine-2-carboxylate, which underwent amidation with methylamine to give 4-chloropyridine-2-carboxylic acid methylamide, which was reacted with 4-aminophenol; the resulting 4-(4-aminophenoxy)pyridine-2-carboxylic acid methylamine reacted with p-nitrophenyl chloroformate and 4-(2-amino-4-trifluoromethylphenyl)-1,2,4-triazole to give example compound II. All the invention compds. were evaluated for their activity as modulators and inhibitors of kinases. From the assay, it was determined that these compds. preferably inhibit VEGF-stimulated mitogenesis of human vascular endothelial cells in cultures with IC50 values of 0.01-5.0  $\mu M$ . REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 5 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:1350605 CAPLUS

DOCUMENT NUMBER: 144:69837

TITLE: Preparation of 3-aminoindazoles as serum and

glucocorticoid-regulated kinase (SGK) inhibitors

INVENTOR(S): Dorsch, Dieter; Burgdorf, Lars Thore;

Gericke, Rolf; Beier, Norbert; Mederski, Werner; Lang,

Florian

Merck Patent GmbH, Germany PATENT ASSIGNEE(S): PCT Int. Appl., 136 pp. SOURCE:

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION: רא יייועיייעייע

PATE	1 TN	10.			KINI	)	DATE			APPL	ICAT	ION I	NO.		D	ATE	
WO 20										WO 2	005-	EP35	13		2	0050	404
Ţ	W:	CN, GE, LC, NI,	CO, GH, LK, NO,	CR, GM, LR, NZ,	CU, HR, LS, OM,	CZ, HU, LT, PG,	AU, DE, ID, LU, PH, TR,	DK, IL, LV, PL,	DM, IN, MA, PT,	DZ, IS, MD, RO,	EC, JP, MG, RU,	EE, KE, MK, SC,	EG, KG, MN, SD,	ES, KM, MW, SE,	FI, KP, MX, SG,	GB, KR, MZ, SK,	GD, KZ, NA, SL,
I	RW:	AZ, EE, RO,	GH, BY, ES, SE,	KG, FI, SI,	KZ, FR, SK,	MD, GB, TR,	MW, RU, GR, BF,	TJ, HU,	TM, IE,	AT, IS,	BE, IT,	BG, LT,	CH, LU,	CY, MC,	CZ, NL,	DE, PL,	DK, PT,
DE 10 AU 20 CA 25	0052	) 4028 25461	17	·	A1		2005	1229		AU 2	005-	2546	17		2	0050	404
EP 1	765	788			A2			0328		EP 2	005-	7293	76		2	0050	404
JP 20 IN 20 US 20 RITY A	0085 0061 0072	IS, 5026: KN03: 2326:	IT, 10 519 20	LI,	LT, T A	LU,	MC, 2008 2007	NL, 0131 0615	PL,	PT, JP 2 IN 2 US 2		SE, 5157 KN35 6295	SI, 92 19	SK,	TR, 2 2 2	LV 0050 0061 0061	404 124 214
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OTHER SOURCE(S): MARPAT 144:69837

GΙ

AB Title compds. I [Y = W-R1; X = H, halo, NO2, etc.; R1 = carbocycle, heterocycle, etc.; W = [C(R2)2]n-[C(R2)2]nCONR2[C(R2)2]n, etc.; R2 = H, A, etc.; A = alkyl, alkylene, etc.] and their pharmaceutically acceptable salts and formulations were prepared For example, coupling of carboxylic acid II and 3-chlorobenzylamine afforded aminoindazole III. Compds. I are claimed to be useful as glucocorticoid-regulated kinase (SGK) inhibitors (no data provided).

L3 ANSWER 6 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:1002884 CAPLUS

DOCUMENT NUMBER: 143:306318

TITLE: Preparation of thiadiazole urea derivatives for use in

controlling signal transduction of kinases

INVENTOR(S):
Burgdorf, Lars; Buchstaller, Hans-Peter;

Stieber, Frank; Anzali, Soheila; Amendt, Christiane;

Greiner, Hartmut; Grell, Matthias; Sirrenberg,

Christian; Zenke, Frank

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: Ger. Offen., 32 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.		KIN	D	DATE			APPL	ICAT	ION 1	NO.		Di	ATE		
DE 1020040099 AU 2005219499 CA 2557303	133	A1 A1 A1		2005 2005 2005	0915 0915		DE 2 AU 2 CA 2	005- 005-	2194 2557	99 303	9933	2	0040 0050 0050	226 131 131	
CN, C GE, G LK, I NO, N SY, I RW: BW, G AZ, E EE, E RO, S	AG, AL, CO, CR, GH, GM, JR, LS, IZ, OM, CJ, TM, GH, GM, GS, FI, GS, FI, GE, SI, IE, SN,	CU, HR, LT, PG, TN, KE, KZ, FR, SK,	AT, CZ, HU, LU, PH, TR, LS, MD, GB,	DE, ID, LV, PL, TT, MW, RU, GR,	AZ, DK, IL, MA, PT, TZ, MZ, TJ, HU,	BA, DM, IN, MD, RO, UA, NA, TM, IE,	BB, DZ, IS, MG, RU, UG, SD, AT, IS,	BG, EC, JP, MK, SC, US, SL, BE, IT,	BR, EE, KE, MN, SD, UZ, SZ, BG, LT,	BW, EG, KG, MW, SE, VC, TZ, CH, LU,	ES, KP, MX, SG, VN, UG, CY, MC,	BZ, FI, KR, MZ, SK, YU, ZM, CZ, NL,	GB, KZ, NA, SL, ZA, ZW, DE, PL,	CH, GD, LC, NI, SM, ZM, AM, DK, PT,	ZW

EP 1720846 A1 20061115 EP 2005-701263 20050131 R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR JP 2007-500082 20050131 JP 2007523922 Τ 20070823 US 2007191353 Α1 20070816 US 2006-590729 20060825 PRIORITY APPLN. INFO.: DE 2004-102004009933A 20040226 WO 2005-EP908 W 20050131

OTHER SOURCE(S):

CASREACT 143:306318; MARPAT 143:306318 GΙ

$$Ar1 \xrightarrow{H} \stackrel{H}{N} \stackrel{H}{N} \stackrel{S}{N} \stackrel{Z}{\longrightarrow} Ar2$$

Ι

ΙV

AΒ Use of compds. I [Ar1 = (un)substituted Ph, naphthyl, biphenyl or heterocycle (substituted with 1-5 R1); Ar2 = (un)substituted Ph, naphthyl, biphenyl or heterocycle (substituted with 1-5 R2); Y = 0, S, CHNO2, C(CN)2, NR4; Z = O, S, CH2(CH2)n, (CH2)nCHA, CHA(CH2)n, C:O, CHOH, (CHA) nO, (CH2) nO, O(CHA) n, etc.; R1, R2 = A, Ar', OR3, OAr', SAr', N(R3) 2, NHAr', halogen, NO2, CN, (CH2)nCO2H, (CH2)nCON(R3)2, (CH2)nCONHR3, etc.; R3 = H, A, (CH2) nAr'; R4 = H, CN, OH, A, (CH2) mAr', COR3, COAr', S(0) mA, S(0)mAr'; Ar' = (un)substituted Ph (optionally substituted 1-5 times withA, Ph, OH, OA, SHH, SA, OPh, SPh, NH2, NHA, NA2, NHPh, halogen, NO2, CN, (CH2)nCO2H), (CH2)nA, CHO, COA, S(O)mA, S(O)mPh, NHCOA, NHCOPh, NHSO2A, NHSO2Ph, SO2NH; Ph = (un)substituted (optionally substituted 1-5 times with A, halogen, CN, CO2R, CO2H, NH2, NO2, OH, OA); Het1 = (un)substituted heterocycle with 1- to 4-heteroatoms (N, O, S; optionally substituted 1 to 3 times with halogen, A, OA, CN, (CH2)nOH, (CH2)n-halogen, NH2, :NH, :NOH, :NOA, :0); A = C1-10-alkyl (whereby 1 - 7 H's can be replaced with F or Cl); halogen = F, Cl, Br, I; n=0-5; m=0,1,2] and their pharmaceutically acceptable salts, solvates, and stereoisomers, for the prophylaxis and/or treatment of diseases, with which the inhibition, control and/or modulation of the signal transduction of kinases, in particular the RAF kinases, play a role. A method for preparation of I comprises: (a) reaction of carbamic acid derivative II (L = OA, Cl, Br, I, OH derivative) with Ar1NH2; or (b) carbamylation of thiadiazolamine III with

Ar1NCO. Thus, 1-[5-(3,4-dimethoxybenzyl)-[1,3,4]-thiadiazol-2-yl]-3-[3-(trifluoromethoxy)phenyl]urea (IV) was prepared from (3,4dimethoxyphenyl)acetonitrile, via cyclocondensation with thiosemicarbazide in CF2CO2H to the 5-(3,4-dimethoxybenzyl)-[1,3,4]-thiadiazole,carbonylation with p-nitrophenyl chloroformate in CH2Cl2 containing pyridine followed by amidation with 3-(trifluoromethoxy)aniline in CH2Cl2 containing EtN(CHMe2)2.

ANSWER 7 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:979621 CAPLUS

DOCUMENT NUMBER: 143:266924

TITLE: Preparation of ureidoalkyl-substituted benzimidazole

derivatives as kinase inhibitors

INVENTOR(S): Buchstaller, Hans-Peter; Burgdorf, Lars;

Stieber, Frank; Amendt, Christiane; Grell, Mathias;

Sirrenberg, Christian; Zenke, Frank

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: PCT Int. Appl., 157 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PA.	TENT	NO.			KIN	D	DATE			APPL	ICAT	ION :	NO.		D.	ATE		
	2005 2005						2005 2005			WO 2	005-	EP14	45		2	0050	214	
,,,	W:	AE, CN, GE, LK, NO, SY, BW,	AG, CO, GH, LR, NZ, TJ, GH,	AL, CR, GM, LS, OM, TM, GM,	AM, CU, HR, LT, PG, TN, KE,	AT, CZ, HU, LU, PH, TR, LS,	AU, DE, ID, LV, PL, TT, MW,	AZ, DK, IL, MA, PT, TZ, MZ,	DM, IN, MD, RO, UA, NA,	DZ, IS, MG, RU, UG, SD,	EC, JP, MK, SC, US, SL,	EE, KE, MN, SD, UZ, SZ,	EG, KG, MW, SE, VC, TZ,	ES, KP, MX, SG, VN, UG,	FI, KR, MZ, SK, YU, ZM,	GB, KZ, NA, SL, ZA, ZW,	GD, LC, NI, SM, ZM, AM,	ZW
ΑΠ	AZ, BY, F EE, ES, F RO, SE, S MR, NE, S AU 2005217042					GB, TR, TG	GR, BF,	HU, ВJ,	IE, CF,	IS, CG,	IT, CI,	LT, CM,	LU, GA,	MC, GN,	NL, GQ,	PL, GW,	PT, ML,	
CA	AU 2005217042					DK,	2005 2006 ES,	0909 1108 FR,	GB,	CA 2 EP 2 GR,	005- 005- IT,	2557 7153 LI,	398 21 LU,	NL,	2 2 SE,	0050 0050	214 214	
	2007 2007 Y APP	5239 1914	29 44	·	T	·	2007	0823	·	JP 2	007- 006- 004- 004-	5000 5907 4332 4967	97 98		2 2 A 2 A 2	0060 0040 0040	825 226 303	
THER SO	OURCE	(S):			MAR:	PAT	143:	2669:										

GΙ

$$\begin{array}{c|c} F3C & \begin{array}{c} H & H \\ N & \end{array} \\ C1 & \begin{array}{c} N & COCH_3 \\ N & H \end{array} \end{array}$$

AB Title compds. I [Ar1 = aromatic hydrocarbon; E, D = divalent alkyl; R8-10 = H, cyloalkyl, halo, alkylhalo, etc.; Y = O, S, etc.; p = 0-5; q = 0-4] are prepared For instance, N-[2-(4-nitrophenyl)ethyl]acetamide is reduced, acetylated and deacylated to give 4-(2-aminoethyl)-3-nitroaniline. This is converted to the urea with 4-chloro-3-(trifluoromethyl)isocyanate and subsequently reduced to the corresponding diamine. Treatment of this with cyanogen bromide and subsequent acetylation provide example compound II. I are modulators of, e.g., A-Raf, B-Raf, Tie-1, etc. kinases [no data] and are useful for the treatment of cancer.

L3 ANSWER 8 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:979617 CAPLUS

DOCUMENT NUMBER: 143:286297

TITLE: Preparation of isoquinoline derivatives as kinase

inhibitors

INVENTOR(S):
Buchstaller, Hans-Peter; Burgdorf, Lars;

Finsinger, Dirk; Amendt, Christiane; Grell, Matthias;

Sirrenberg, Christian; Zenke, Frank

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: PCT Int. Appl., 141 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PAT	CENT I				KIN	D :	DATE		-	APPL	ICAT	ION 1	NO.		D.	ATE		
	2005	– .	58		A2 A3		2005 2005		,	WO 2	005-	EP98	3		2	0050	201	
	W:	AE, CN, GE, LK, NO, SY, BW, AZ, EE, RO,	AG, CO, GH, LR, NZ, TJ, GH, BY, ES, SE,	CR, GM, LS, OM, TM, GM, KG, FI,	AM, CU, HR, LT, PG, TN, KE, KZ,	AT, CZ, HU, LU, PH, TR, LS, MD, GB,	AU, DE, ID, LV, PL,	AZ, DK, IL, MA, PT, TZ, MZ, TJ,	DM, IN, MD, RO, UA, NA, TM, IE,	DZ, IS, MG, RU, UG, SD, AT, IS,	EC, JP, MK, SC, US, SL, BE, IT,	EE, KE, MN, SD, UZ, SZ, BG, LT,	EG, KG, MW, SE, VC, TZ, CH, LU,	ES, KP, MX, SG, VN, UG, CY, MC,	FI, KR, MZ, SK, YU, ZM, CZ, NL,	GB, KZ, NA, SL, ZA, ZW, DE, PL,	GD, LC, NI, SM, ZM, AM, DK, PT,	ZW

AU 2005217033 A1 20050909 AU 2005-217033 CA 2555720 A1 20050909 CA 2005-2555720 EP 1718616 A2 20061108 EP 2005-707121 20050201 20050201 20050201 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS JP 2007523923 T 20070823 JP 2007-500085 20050201 US 2007191423 Α1 20070816 US 2006-590797 20060825 EP 2004-4412 PRIORITY APPLN. INFO.: A 20040226 W 20050201 WO 2005-EP983

OTHER SOURCE(S): CASREACT 143:286297; MARPAT 143:286297

GΙ

$$(R^1)_{m}Ar^1$$
 $N$ 
 $H$ 
 $N$ 
 $E$ 
 $N$ 
 $(R^2)_{n}$ 
 $N$ 

Title compds. I [Ar1 = (un)substituted aryl; E = (un)substituted aliphaticAΒ linker of 1-2 carbons; D = (un)substituted aliphatic linker of 0-1 carbons; Y = 0, S, C(CN)2, etc.; R1-3 independently = H, halo, NO2, etc.; m and p independently = 0-5; n - 0-4], and their pharmaceutically acceptable salts, are prepared and disclosed as kinase inhibitors (no data). Thus, e.g., II was prepared by reaction of 4-chloro-3trifluoromethylphenylisocyanate with N-methyl-7-(2-aminoethyl)isoquinolin-3-carboxamide (prepn given). Pharmaceutical compns. of I, and a method of treatment, comprising administering said pharmaceutical composition to a patient are further disclosed.

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L3 ANSWER 9 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:823661 CAPLUS

DOCUMENT NUMBER: 143:229726

Preparation of 1,3-diarylureas as inhibitors of raf TITLE:

and other kinases useful against cancer and other

diseases

Buchstaller, Hans-Peter; Burgdorf, Lars; INVENTOR(S):

Stieber, Frank; Amendt, Christiane; Grell, Matthias;

Sirrenberg, Christian; Zenke, Frank

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: PCT Int. Appl., 264 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

KIND APPLICATION NO. DATE PATENT NO. DATE \_\_\_\_\_

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WO 2005075425
                          A2
                                 20050818
                                           WO 2005-EP387
                                                                     20050117
     WO 2005075425
                          А3
                                 20061214
            AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM
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             RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
             MR, NE, SN, TD,
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     AU 2005211448
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                                             AU 2005-211448
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     CA 2554878
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     EP 1730111
                                 20061213
                                             EP 2005-700967
                          A2
                                                                     20050117
           AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA,
             HR, LV, MK, YU
     CN 1972925
                                 20070530
                                             CN 2005-80002901
                                                                     20050117
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     BR 2005007198
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                                 20070626
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     JP 2007519653
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                                 20070719
                                             JP 2006-549997
                                                                     20050117
     US 2007161677
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                                 20070712
                                             US 2006-587292
                                                                     20060725
     MX 2006PA08449
                                 20061002
                                             MX 2006-PA8449
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                          Α
                                 20070525
                                             IN 2006-KN2441
     IN 2006KN02441
                          Α
                                                                     20060828
                                             EP 2004-2092
PRIORITY APPLN. INFO.:
                                                                  Α
                                                                     20040130
                                             WO 2005-EP387
                                                                 W
                                                                     20050117
                         MARPAT 143:229726
OTHER SOURCE(S):
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GΙ

AB The present invention relates to bisarylurea derivs. (shown as I; variables defined below; e.g. 4-[4-[3-[4-chloro-5-methyl-2-(2-methylaminoethoxy)phenyl]ureido]phenoxy]pyridine-2-carboxylic acid methylamide (shown as II)), their use as inhibitors of raf-kinase (no data) and for the manufacture of a pharmaceutical composition and a method of treatment, comprising administering said pharmaceutical composition to a patient. Methods of preparation are claimed and >100 example prepns. are included. For example, 1-[2-[(tert-butoxycarbonyl)(methyl)amino]ethoxy]-5-(trifluoromethyl)phenyl]-3-[4-[[2-(methylcarbamoyl)pyridin-4-yl]oxy]phenyl]urea was prepared (87 %) by reacting tert-Bu [2-[2-amino-4-(trifluoromethyl)phenoxy]ethyl](methyl)carbamate (preparation

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given) with p-nitrophenyl chloroformate followed by N-methyl-4-(4-aminophenoxy)pyridine-2-carboxamide (preparation given) and DIPEA; deprotection gave 86 %  $1-[2-[2-(methylamino)ethoxy]-5-(trifluoromethyl)phenyl]-3-[4-[[2-(methylcarbamoyl)pyridin-4-yl]oxy]phenyl]urea. For I: Ar1, Ar2 = aromatic hydrocarbons containing 6 to 14 C atoms and ethylenic unsatd. or aromatic heterocyclic residues containing 3 to 10 C atoms and one or two heteroatoms, = N, O and S; E, G, M, Q and U = C and N atoms, with the proviso that <math>\geq 1$  of E, G, M, Q and U are C atoms and that X is bonded to a C atom. R7 = Het, OHet, N(R11)Het, (CR5R6)kHet, et al. or R7 = -SO2-CR8:CR8-, wherein both valencies are bound vicinally to Ar1; R8, R9 and R10 = H, A, cycloalkyl comprising 3 to 7 C atoms, Hal, et al.; Y = O, S, NR21, C(R22)-NO2, C(R22)-CN and C(CN)2; g = 1-3, preferably 1 or 2, p, r = 0-5; q = 0-4, preferably 0, 1 or 2; addnl. details are given in the claims.

L3 ANSWER 10 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:567162 CAPLUS

DOCUMENT NUMBER: 143:97170

TITLE: Preparation and formulations of diacylhydrazine

derivatives capable of inhibiting raf-kinases

INVENTOR(S): Finsinger, Dirk; Buchstaller, Hans-Peter;

Burgdorf, Lars; Amendt, Christiane; Grell, Matthias; Sirrenberg, Christian; Zenke, Frank

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: PCT Int. Appl., 189 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PA:	TENT	NO.			KIN	D	DATE								D	ATE	
WO	2005	0588	 32		A1	_	2005	0630			2004-1				2	0041	111
	W:	ΑE,	AG,	AL,	AM,	ΑT,	ΑU,	AZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,
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		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KP,	KR,	KZ,	LC,
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NA,	NI,
		NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SY,
		ΤJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UΖ,	VC,	VN,	YU,	ZA,	ZM,	ZW.
	RW:	BW.	GH,	GM,	KE,	LS,	MW.	MZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,
		,	•	•	•		,				BE,			•		•	
		EE,	ES,	FI,	FR.	GB,	GR,	HU,	ΙE,	IS,	IT,	LU,	MC,	NL,	PL,	PT,	RO,
											CM,	,					•
		,	SN,	,	,	,	- ,	,	,	- ,	- ,	- ,	- ,	- ~ /	- ,	,	•
AU	2004						2005	0630		AU 2	2004-	2991	74		2	0041	111
CA	2548	571			A1		2005	0630		CA 2	2004-	2548	571		2	0041	111
	1692										2004-						
	R:	AT,	BE,	CH,	DE,	DK.	ES,	FR.	GB,	GR,	IT,	LI.	LU.	NL.	SE,	MC.	PT,
											HU,				- ,	- ,	,
JP	2007														2	0041	111
	2007																
RIORIT											2003-						
										WO 2	2004-1	EP12	764	,	W 2	0041	111
THER SO		(S):			CAS:	REAC	T 14	3:97									

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AB The present invention discloses diacylhydrazine derivs. of formula I [D = bivalent diacylhydrazine moiety, or a derivative thereof; A = (un)substituted moiety of formula -L-(ML1)n, where L = aryl, heteroaryl, arylene, and heteroarylene bound directly to D, L1 = (un)substituted aryl, heteroaryl, aralkyl, cycloalkyl, and heterocyclyl, M = bond or linker, n - 1-4; B = (un)substituted up to tricyclic aryl or heteroaryl], methods to prepare them, and their use as inhibitors of raf-kinase (no data). Thus, e.g., II was prepared by substitution of (4-chloropyridine-2-carboxylic acid)methylamide (preparation given) with 3-hydroxybenzoic acid Et ester followed by hydrolysis, esterification with pentafluorophenol and reaction with 3-bromobenzhydrazide. The use of I for the manufacture of a pharmaceutical composition and a method of treatment, comprising administering said pharmaceutical composition to a patient, are further disclosed.

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 11 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:469894 CAPLUS

DOCUMENT NUMBER: 143:7592

TITLE: Preparation of arylpyrrolecarboxamides as Raf kinase

inhibitors for treatment of tumors.

INVENTOR(S): Finsinger, Dirk; Buchstaller, Hans-Peter;

Burgdorf, Lars; Wiesner, Matthias; Amendt,

Christiane; Grell, Matthias; Sirrenberg, Christian;

Zenke, Frank

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: Ger. Offen., 32 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND DATE	APPLI	CATION NO.	DATE
DE 10354060	A1 2005	50602 DE 20	003-10354060	20031119
AU 2004291255	A1 2005	0602 AU 20	004-291255	20041026
CA 2546334	A1 2005	0602 CA 20	004-2546334	20041026
WO 2005049603	A1 2005	50602 WO 20	004-EP12076	20041026
W: AE, AG, AL,	AM, AT, AU,	AZ, BA, BB,	BG, BR, BW, BY,	BZ, CA, CH,
CN, CO, CR,	CU, CZ, DE,	DK, DM, DZ,	EC, EE, EG, ES,	FI, GB, GD,
GE, GH, GM,	HR, HU, ID,	IL, IN, IS,	JP, KE, KG, KP,	KR, KZ, LC,
LK, LR, LS,	LT, LU, LV,	MA, MD, MG,	MK, MN, MW, MX,	MZ, NA, NI,
NO, NZ, OM,	PG, PH, PL,	PT, RO, RU,	SC, SD, SE, SG,	SK, SL, SY,
TJ, TM, TN,	TR, TT, TZ,	UA, UG, US,	UZ, VC, VN, YU,	ZA, ZM, ZW
RW: BW, GH, GM,	KE, LS, MW,	MZ, NA, SD,	SL, SZ, TZ, UG,	ZM, ZW, AM,
AZ, BY, KG,	KZ, MD, RU,	TJ, TM, AT,	BE, BG, CH, CY,	CZ, DE, DK,

EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG EP 1685125 20060802 EP 2004-790859 20041026 Α1 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK CN 1882571 Α 20061220 CN 2004-80034345 20041026 BR 2004016690 20070130 BR 2004-16690 20041026 JP 2007511553 Τ 20070510 JP 2006-540216 20041026 IN 2006KN00936 20070420 IN 2006-KN936 20060417 Α MX 2006PA05478 20060811 MX 2006-PA5478 Α 20060515 US 2007149594 Α1 20070628 US 2006-579825 20060517 PRIORITY APPLN. INFO.: DE 2003-10354060 A 20031119 WO 2004-EP12076 W 20041026 OTHER SOURCE(S): MARPAT 143:7592

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AΒ Title compds. [I; Ar = (substituted) Ph, naphthyl, biphenyl, heterocyclyl; X = O, S, (CH2)n, CO, (CH2)nO, (CH2)nNH, etc.; n = 1-3; Y = O, S, CHNO2, C(CN)2, NR4; R4 = H, cyano, OH, etc.; Z = Ar, ArXAr, CH2Ar, CH2ArXAr; Ar = (substituted) Ph], were prepared as Raf kinase inhibitors (no data). Thus, 4-(PhCH2O)C6H4CH2CO2H, DMF, and POCl3 were heated together at 70° for 4 h followed by cooling and addition of ice water and aqueous NaClO4 to give

98% [2-(4-benzyloxyphenyl)-3-dimethylaminoallylidene]dimethylammonium perchlorate. This was refluxed 24 h with glycine Et ester hydrochloride in EtOH containing 20% NaOEt to give 91% Et 4-(4-benzyloxyphenyl)-1H-pyrrole-2carboxylate. Hydrogenolysis of the latter in EtOAc over Pd/C gave 91% Et 4-(4-hydroxyphenyl)-1H-pyrrole-2-carboxylate. This was heated with 4-chloropyridine-2-carboxylic acid N-methylamide at 160° for 48 h  $\,$ to give 40% Et 4-[4-(2-methylcarbamoylpyridin-4-yloxy)phenyl]-1H-pyrrole-2carboxylate. Saponification with 2N NaOH in EtOH at 60° for 16 h followed by acidification with HCl gave 85% free acid, which was stirred 48 h in DMF with 5-amino-2-chlorobenzotrifluoride, N-(3-dimethylaminopropyl)-N'ethylcarbodiimide hydrochloride, and 1-hydroxybenzotriazole hydrate to give 17% 4-[4-[5-(4-chloro-3-trifluoromethylphenylcarbamoyl)-1H-pyrrol-3vl]phenoxy]pyridine-2-carboxylic acid N-methylamide.

ANSWER 12 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:371211 CAPLUS

142:429927 DOCUMENT NUMBER:

TITLE: Preparation of acylhydrazones as modulators of

glucocorticoid inducible kinase (SGK)

INVENTOR(S): Gericke, Rolf; Beier, Norbert; Poeschke, Oliver;

Burgdorf, Lars; Drosdat, Helga; Lang, Florian

Merck Patent GmbH, Germany PATENT ASSIGNEE(S):

SOURCE: PCT Int. Appl., 65 pp. CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PA	TENT	NO.			KIN:		DATE				LICAT				D	ATE	
WO	2005	 0377	 73								2004-				2	0040	916
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		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS	S, JP,	ΚE,	KG,	KP,	KR,	KΖ,	LC,
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MO	G, MK,	MN,	MW,	MX,	${ m MZ}$ ,	NA,	ΝI,
		NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU	J, SC,	SD,	SE,	SG,	SK,	SL,	SY,
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		EE,	ES,	FΙ,	FR,	GB,	GR,	HU,	ΙE,	ΙΊ	ː, LU,	MC,	NL,	PL,	PT,	RO,	SE,
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DE	1034	6913			A1		2005	0504		DE	2003- 2004-	1034	6913		2	0031	009
AU	2004	2819	06		A1		2005	0428		AU	2004-	2819	06		2	0040	916
CA	2542	106			A1		2005	0428		CA	2004-	2542	106		2	0040	916
EP	1670	751			A1		2006	0621		ΕP	2004-	7652	98		2	0040	916
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CN	1863	764			А		2006	1115		CN	2004- 2004-	8002	9575		2	0040	916
BR	2004	0151	19		А		2006	1128		BR	2004-	1511	9		2	0040	916
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											2006-					0060	
	2006				А		2007	0427			2006-					0060	
PRIORIT	Y APP	LN.	INFO	.:							2003-						
										WO	2004-	EP10	398		W 2	0040	916
OTHER S	OURCE	(S):			MAR:	PAT	142:	4299.	27								

OTHER SOURCE(S): MARPAT 142:429927

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AB Title compds. I [R1, R5 = H, OH, CH3, etc.; R2, R3, R4, R6, R7, R8, R9, R10 = H, OH, OCF3, etc.; R11 = H, CH3; X = CH2, CH2CH2, OCH2, etc.] and their pharmaceutically acceptable salts and formulations were prepared For example, condensation of 4-hydroxy-2-methoxybenzaldehyde and (3-hydroxyphenyl)acetic acid hydrazide, afforded claimed acylhydrazone II in 75% yield. Compds. I are claimed to be useful in the modulation glucocorticoid inducible kinase (SGK).

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 13 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:55062 CAPLUS

DOCUMENT NUMBER: 142:134604

TITLE: Preparation of benzimidazole amides as raf kinase

inhibitors

INVENTOR(S): Buchstaller, Hans-Peter; Finsinger, Dirk; Wiesner,

Matthias; Burgdorf, Lars; Amendt,

Christiane; Grell, Matthias; Sirrenberg, Christian;

Zenke, Frank

PATENT ASSIGNEE(S): Merck Patent GmbH, Germany SOURCE: PCT Int. Appl., 145 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATE	NT :	NO.			KIN	D	DATE			APPL	ICAT	ION :	NO.		D.	ATE	
						_									_		
WO 20	005	0048	64		A1		2005	0120	•	WO 2	004-	EP64	19		2	0040	615
V	W: AE, AG, A: CN, CO, CI			AL,	ΑM,	ΑT,	ΑU,	ΑZ,	ΒA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,
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		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KΕ,	KG,	KP,	KR,	KΖ,	LC,
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NA,	ΝI,
		NO,	NΖ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SY,
	NO, NZ, ON TJ, TM, TN			TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG AU 2004255403 20050120 AU 2004-255403 Α1 20040615 CA 2531859 Α1 20050120 CA 2004-2531859 20040615 EP 2004-739891 EP 1653951 Α1 20060510 20040615 AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK JP 2007513054 Τ 20070524 JP 2006-519783 20040615 US 2007010560 Α1 20070111 US 2006-564185 20060807 US 2007156268 20070705 US 2006-564169 20061128 Α1 US 2007168064 Α1 20070719 US 2006-564101 20061128 EP 2003-15582 PRIORITY APPLN. INFO.: A 20030711 WO 2004-EP6419 W 20040615 US 2005-740014P Ρ 20051128

OTHER SOURCE(S): CASREACT 142:134604; MARPAT 142:134604

AB Title compds. I [R6-7 = H, A, SO2A; A = alkyl, alkenyl, cycloalkyl, etc.; Ar2 = aromatic hydrocarbon; R8-10 = H, A, cycloalkyl, etc.; X = divalent alkyl, etc.; p, n = 0-5; q = 0-4] are prepared For instance, II is prepared from the corresponding 2-aminoimidazole and carboxylic acid (DMF, TBTU, HOBt, i-Pr2NEt). I are raf kinase inhibitors and are useful for the treatment of cancer.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 14 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:869840 CAPLUS

DOCUMENT NUMBER: 138:283104

TITLE: Cleavable substrate containing molecular beacons for

the quantification of DNA-photolyase activity

AUTHOR(S): Kundu, Lal Mohan; Burgdorf, Lars T.;

Kleiner, Oliver; Batschauer, Alfred; Carell, Thomas

CORPORATE SOURCE: Fachbereich Chemie, Philipps-Universitat Marburg,

Marburg, 35032, Germany

ChemBioChem (2002), 3(11), 1053-1060SOURCE:

CODEN: CBCHFX; ISSN: 1439-4227

Wiley-VCH Verlag GmbH & Co. KGaA PUBLISHER:

DOCUMENT TYPE: Journal English LANGUAGE:

AB To gain deeper insight into the function and interplay of proteins in cells it is essential to develop methods that allow the profiling of protein function in real time, in solution, in cells, and in cell organelles. Here the authors report the development of a U-type oligonucleotide (mol. beacon) that contains a fluorophore and a quencher at the tips, and in addition a substrate analog in the loop structure. This substrate analog induces a hairpin cleavage in response to enzyme action, which is translated into a fluorescence signal. The mol. beacon developed here was used to characterize DNA-photolyase activity. These enzymes represent a challenge for anal. because of their low abundance in cells. The mol. beacon made it possible to measure the activity of purified class I and class II photolyases. Photolyase activity was even detectable in crude cell exts.

REFERENCE COUNT: 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 15 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

2002:418594 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER: 137:243521

Weak distance dependence of excess electron transfer TITLE:

in DNA

AUTHOR(S): Behrens, Christoph; Burgdorf, Lars T.;

Schwogler, Anja; Carell, Thomas

CORPORATE SOURCE: Fachbereich Chemie Philipps-Universitat Marburg,

Marburg, 35032, Germany

Angewandte Chemie, International Edition (2002), SOURCE:

41(10), 1763-1766

CODEN: ACIEF5; ISSN: 1433-7851

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal LANGUAGE: English

Remote reductive repair of thymine dimers in a DNA duplex by transfer of excess electrons over a distance of up to roughly 24 Å (n = 7) has been attributed to thermally activated hopping (see scheme). Possible consequences for humans: the harmful effect of UV irradiation responsible for the development of skin cancer could potentially be reduced by compds. that bind to DNA and trigger long-range electron transport.

THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT: 53 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 16 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:62884 CAPLUS

DOCUMENT NUMBER: 136:243409

Synthesis, stability, and conformation of the formamidopyrimidine  ${\tt G}$  DNA lesion TITLE:

Burgdorf, Lars T.; Carell, Thomas

AUTHOR(S): CORPORATE SOURCE: Fachbereich Chemie Philipps-Universitat Marburg,

Marburg, 35032, Germany

Chemistry--A European Journal (2002), 8(1), 293-301 SOURCE:

CODEN: CEUJED; ISSN: 0947-6539

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 136:243409

The formamidopyrimidine (FapydGua) lesion, derived from the nucleobase guanine, is a major DNA lesion involved in mutagenesis and carcinogenesis. To date, the chemical information available about this main lesion is very limited. Herein, we describe a synthesis and a detailed characterization of the acetyl-protected monomer of the FapydGua lesion. Stability studies in DMSO and in water/acetonitrile show that the N-glycosidic bond, previously thought to be highly labile, is much more stable than anticipated. Decomposition of the FapydGua lesion proceeds with half-life times of 37.8 h for the  $\beta$ -anomer and 65.2 h for the  $\alpha$ -anomer in water/acetonitrile. The relaxation time for the anomerization reaction was determined to  $\tau = 6.5$  h at room temperature Most important, it was found that the formamido group, which is critical for the lesion recognition process by repair enzymes, is fixed in the cis-conformation in apolar solvents such as chloroform. This conformation enables the formation of a hydrogen bond between the carbonyl oxygen of the formamide and the NH of the N-glycosidic bond within the framework of a seven-membered ring system. This has consequences for the recognition of the lesion by repair enzymes (hOGG1 and Fpg protein). These enzymes were so far believed to recognize the carbonyl group of the FapydGua lesion. Our investigations show that this carbonyl group is not readily accessible because it is almost buried in the dominating cis-conformation. In agreement with the recent X-ray structure of hOGG1 in complex with 8-oxo-7,8-dihydroguaninecontaining DNA, we can conclude that repair enzymes can contact both lesions only via the N(7)-H group, which is a hydrogen-bond acceptor in quanine.

REFERENCE COUNT: 74 THERE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 17 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:709363 CAPLUS

DOCUMENT NUMBER: 135:368343

TITLE: The mechanism of action of DNA photolyases AUTHOR(S): Carell, T.; Burgdorf, L. T.; Kundu, L. M.;

Cichon, M.

CORPORATE SOURCE: Department of Chemistry, Philipps-University Marburg,

Marburg, D-35032, Germany

SOURCE: Current Opinion in Chemical Biology (2001), 5(5),

491-498

CODEN: COCBF4; ISSN: 1367-5931

PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review with 43 refs. Structural anal., biochem., and model studies have provided new insights into the mechanism of action of photolyases. The light-driven electron and energy transfer events that lead to the photolyase-catalyzed repair of lethal, mutagenic, and carcinogenic

UV-light-induced DNA lesions have all been examined in the past few years. REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 18 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:819021 CAPLUS

DOCUMENT NUMBER: 134:158975

TITLE: Self-repairing DNA based on a reductive electron

transfer through the base stack

AUTHOR(S): Schwogler, Anja; Burgdorf, Lars T.; Carell,

Thomas

CORPORATE SOURCE: Fachbereich Chemie, Philipps-Univ., Marburg, 35032,

Germany

SOURCE: Angewandte Chemie, International Edition (2000),

39(21), 3918-3920

CODEN: ACIEF5; ISSN: 1433-7851

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal LANGUAGE: English

DNA photolyases utilize light energy to initiate the repair of highly AΒ mutagenic UV-induced cyclobutane pyrimidine dimers that form the major photolesions in DNA. The basis of the repair reaction, which rescues many insects, fish, amphibians, and plants from UV-induced cell death and mutagenesis, is a light-induced electron transfer from a reduced and deprotonated flavin coenzyme to the DNA lesion. The lesion undergoes a spontaneous cycloreversion as its radical anion to the corresponding monomers. Although the general mechanism of the light-driven repair process is known, no information is currently available about the critical electron-donation process from the flavin donor to the dimer acceptor in the DNA strand. In particular, the question as to what extent the DNA double strand is able to mediate the transport of the electron in the base stack is still under debate. This question is directly linked to investigations of the electron hole transport properties of DNA. Hole transfer was recently shown to proceed over relatively large distances in an undisturbed DNA double strand. Expts. carried out recently provided compelling evidence that a hopping process in which guanosine bases (which react to form quanosine radical cations) act as stepping stones in the DNA double helix could be one basis for the seemingly distance independent hole transfer. A deeper understanding of oxidative damage to DNA and the design of DNA-based bioanal. devices is crucially dependent upon the elucidation of the electron- and hole-transfer properties of double-stranded DNA. Herein we report the preparation of DNA strands containing a

flavin building block and a cyclobutane thymidine dimer lesion. These doubly modified DNA strands show light-induced self-repairing properties and allowed insight to be gained into the ability of DNA to mediate a reductive (surplus) electron-transfer reaction.

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 19 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:350039 CAPLUS

DOCUMENT NUMBER: 133:218952

TITLE: DNA repair: from model compounds to artificial enzymes

AUTHOR(S): Carell, Thomas; Burgdorf, Lars; Butenandt,

Jens; Epple, Robert; Schwogler, Anja

CORPORATE SOURCE: Department of Organic Chemistry, Swiss Federal

Institute of Technology, ETH-Zentrum, Zurich, CH-8092,

Switz.

SOURCE: Bioorganic Chemistry (1999), 242-254. Editor(s):

Diederichsen, Ulf. Wiley-VCH Verlag GmbH: Weinheim,

Germany.

CODEN: 68ZQAX

DOCUMENT TYPE: Conference; General Review

LANGUAGE: English

AB A review, with 52 refs. The topics discussed include: the degradation and repair of genetic information; DNA photolyase repair enzymes; mechanistic investigations with model compds.; and the role of the 2nd cofactor.

REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 20 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:447533 CAPLUS

DOCUMENT NUMBER: 131:88087

TITLE: Synthesis of DNA lesions and DNA-lesion-containing

oligonucleotides for DNA-repair studies

AUTHOR(S): Butenandt, Jens; Burgdorf, Lars Thore;

Carell, Thomas

CORPORATE SOURCE: Lab. Organische Chemie, ETH-Zentrum Zurich, Zurich,

CH-8092, Switz.

SOURCE: Synthesis (1999), (7), 1085-1105

CODEN: SYNTBF; ISSN: 0039-7881

PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review with 178 refs. In order to study the effect of DNA lesions on the structure of the DNA double helix, a variety of lesion building blocks were recently synthesized and incorporated into oligonucleotides. In addition, oligonucleotides which contain DNA lesions at specific sites are the basis for a detailed investigation of repair mechanisms that were developed by organisms in order to counteract the lethal effect of DNA damage. This review article describes the recent synthetic progress that has enabled the preparation of DNA lesion phosphor-amidite building blocks. The synthetic procedures employed for their preparation and the methods used to incorporate these building blocks into oligonucleotides are described.

The biol. effect of each particular lesion is briefly recapitulated.

REFERENCE COUNT: 182 THERE ARE 182 CITED REFERENCES AVAILABLE FOR

THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

NDMAT

FORMAT

L3 ANSWER 21 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:192842 CAPLUS

DOCUMENT NUMBER: 131:15260

TITLE: "Base flipping": photodamaged DNA-RNA duplexes are

poor substrates for photoreactivating DNA-repair

enzymes

AUTHOR(S): Butenandt, Jens; Burgdorf, Lars T.; Carell,

Thomas

CORPORATE SOURCE: Laboratorium fur Organische Chemie, ETH-Zentrum,

Zurich, CH-8092, Switz.

SOURCE: Angewandte Chemie, International Edition (1999),

38(5), 708-711

CODEN: ACIEF5; ISSN: 1433-7851

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal LANGUAGE: English

AB The cis-syn cyclobutane pyrimidine dimers (photodimers) are the main DNA lesions formed on irradiation of cells with UV light. They are responsible for cell death, the development of various skin cancers, and therefore represent a severe threat to all organisms that are exposed to sunlight. All organisms have developed DNA repair processes in order to remove UV-induced lesions from the genome and to overcome DNA damage. The observation that certain genome sites are repaired with greatly reduced efficiency, giving rise to mutation hot spots has shifted the investigation of the factors that determine the effectiveness of lesion recognition into the center of DNA repair research. It is currently believed that lesion-specific repair enzymes recognize structural alterations of the normal DNA duplex which are possibly caused by weakened hydrogen bonds and  $\pi$ -stacking interactions around a DNA lesion. Crystallog. data show that many repair enzymes subsequently "flip" the damaged base out of the DNA duplex for repair. This process could be influenced by the DNA packing, which may shield DNA lesions and by the local DNA sequence and conformation. First indication that DNA repair might be influenced by the duplex conformation stems from the discovery that dsDNA-specific repair enzymes remove lesions from DNA-RNA hybrids, which are in an atypical A-like conformation, with reduced efficiency. In order to learn if and to what extent the duplex conformation is able to influence the DNA-photolyase repair process, we investigated the extent to which A- and B-type double strands are destabilized by a photolesion, which has been incorporated site-specifically into the DNA strand. The repair was probed with a DNA-photolyase, which is believed to recognize the cis-syn photolesions in an extra-helical, "flipped-out" conformation. The thermodn. data reveal that photodimers significantly destabilize a

B-duplex but decrease the stability of an A-like duplex only to a small extent. The low destabilization was found to correlate with less efficient repair, which indicates that the local DNA conformation might modulate the DNA lesion "flipping" process.

REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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                 MEDLINE segment
NEWS 13 DEC 17 MEDLINE and LMEDLINE updated with 2008 MeSH vocabulary
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                 from USPATOLD
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NEWS 19 JAN 28 MARPAT searching enhanced
NEWS 20 JAN 28 USGENE now provides USPTO sequence data within 3 days
                 of publication
NEWS 21 JAN 28
                 TOXCENTER enhanced with reloaded MEDLINE segment
NEWS 22 JAN 28 MEDLINE and LMEDLINE reloaded with enhancements
NEWS 23 FEB 08
                 STN Express, Version 8.3, now available
NEWS 24 FEB 20
                 PCI now available as a replacement to DPCI
NEWS 25 FEB 25
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NEWS 26 FEB 25
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                 U.S. National Patent Classification
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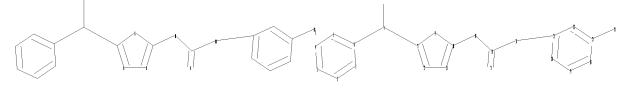
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chain nodes :

7 8 14 15 16 17 24

ring nodes :

1 2 3 4 5 6 9 10 11 12 13 18 19 20 21 22 23

chain bonds :

6-7 7-8 7-13 10-14 14-15 15-16 15-17 16-21 23-24

ring bonds :

 $1-2 \quad 1-6 \quad 2-3 \quad 3-4 \quad 4-5 \quad 5-6 \quad 9-10 \quad 9-13 \quad 10-11 \quad 11-12 \quad 12-13 \quad 18-19 \quad 18-23 \quad 19-20 \quad 18-19 \quad 18$ 

20-21 21-22 22-23 exact/norm bonds :

 $9-10 \quad 9-13 \quad 10-11 \quad 10-14 \quad 11-12 \quad 12-13 \quad 14-15 \quad 15-16 \quad 15-17 \quad 16-21$ 

exact bonds :

6-7 7-8 7-13 23-24

normalized bonds :

 $1-2 \quad 1-6 \quad 2-3 \quad 3-4 \quad 4-5 \quad 5-6 \quad 18-19 \quad 18-23 \quad 19-20 \quad 20-21 \quad 21-22 \quad 22-23$ 

## Match level:

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:Atom 24:CLASS

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=> s 12

L3 1 L2

=> d 13 ibib abs

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:1002884 CAPLUS

DOCUMENT NUMBER: 143:306318

TITLE: Preparation of thiadiazole urea derivatives for use in

controlling signal transduction of kinases

INVENTOR(S): Burgdorf, Lars; Buchstaller, Hans-Peter; Stieber,

Frank; Anzali, Soheila; Amendt, Christiane; Greiner, Hartmut; Grell, Matthias; Sirrenberg, Christian;

Zenke, Frank

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: Ger. Offen., 32 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	PATENT NO.						DATE			APPLICATION NO.					DATE			
	102004009933							DE 2004-102004009933						20040226				
	AU 2005219499								AU 2005-219499						20050131			
CA	2557303				A1				CA 2005-2557303						20050131			
WO	2005085220				A1	.1 20050915			WO 2005-EP908						20050131			
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GΙ

$$Ar1 \xrightarrow{H} \stackrel{H}{N} \stackrel{H}{N} \stackrel{S}{N} \stackrel{Z}{\longrightarrow} Ar2$$

Ι

AΒ Use of compds. I [Ar1 = (un)substituted Ph, naphthyl, biphenyl or heterocycle (substituted with 1-5 R1); Ar2 = (un)substituted Ph, naphthyl, biphenyl or heterocycle (substituted with 1-5 R2); Y = O, S, CHNO2,  $C(CN)_2$ , NR4; Z = O, S,  $CH2(CH2)_n$ ,  $(CH2)_nCHA$ ,  $CHA(CH2)_n$ , C:O, CHOH, (CHA) nO, (CH2) nO, O(CHA) n, etc.; R1, R2 = A, Ar', OR3, OAr', SAr', N(R3) 2,NHAr', halogen, NO2, CN, (CH2)nCO2H, (CH2)nCON(R3)2, (CH2)nCONHR3, etc.; R3 = H, A, (CH2) nAr'; R4 = H, CN, OH, A, (CH2) mAr', COR3, COAr', S(0) mA, S(0) mAr'; Ar' = (un) substituted Ph (optionally substituted 1-5 times with A, Ph, OH, OA, SHH, SA, OPh, SPh, NH2, NHA, NA2, NHPh, halogen, NO2, CN, (CH2)nCO2H), (CH2)nA, CHO, COA, S(O)mA, S(O)mPh, NHCOA, NHCOPh, NHSO2A, NHSO2Ph, SO2NH; Ph = (un)substituted (optionally substituted 1-5 times with A, halogen, CN, CO2R, CO2H, NH2, NO2, OH, OA); Het1 = (un)substituted heterocycle with 1- to 4-heteroatoms (N, O, S; optionally substituted 1 to 3 times with halogen, A, OA, CN, (CH2)nOH, (CH2)n-halogen, NH2, :NH, :NOH, :NOA, :0); A = C1-10-alkyl (whereby 1 - 7 H's can be replaced with F or Cl); halogen = F, Cl, Br, I; n=0-5; m=0, 1, 2] and their pharmaceutically acceptable salts, solvates, and stereoisomers, for the prophylaxis and/or treatment of diseases, with which the inhibition, control and/or modulation of the signal transduction of kinases, in particular the RAF kinases, play a role. A method for preparation of I comprises: (a) reaction of carbamic acid derivative II (L = OA, Cl, Br, I, OH derivative) with Ar1NH2; or (b) carbamylation of thiadiazolamine III with Ar1NCO. Thus, 1-[5-(3,4-dimethoxybenzyl)-[1,3,4]-thiadiazol-2-yl]-3-[3-(trifluoromethoxy)phenyl]urea (IV) was prepared from (3,4dimethoxyphenyl)acetonitrile, via cyclocondensation with thiosemicarbazide in CF2CO2H to the 5-(3,4-dimethoxybenzyl)-[1,3,4]-thiadiazole,carbonylation with p-nitrophenyl chloroformate in CH2C12 containing pyridine followed by amidation with 3-(trifluoromethoxy)aniline in CH2Cl2 containing EtN(CHMe2)2.

IV

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L6 1 SEA FAM FUL L4

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=> s 16

L7 1 L6

=> d 17

- L7 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN
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- DN 145:95761
- TI A Combination of Docking/Dynamics Simulations and Pharmacophoric Modeling To Discover New Dual c-Src/Abl Kinase Inhibitors
- AU Manetti, Fabrizio; Locatelli, Giada A.; Maga, Giovanni; Schenone, Silvia; Modugno, Michele; Forli, Stefano; Corelli, Federico; Botta, Maurizio
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